



152045
00000-3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL RESPONSE TEAM CENTER
Edison, New Jersey 837

August 5, 1999

MEMORANDUM

SUBJECT: South Central Terminal, Pana, Illinois

FROM: André P. Zownir, Environmental Engineer *André P. Zownir*

TO: Kevin Turner, On-Scene Coordinator
EPA Region V

I am enclosing two copies of the REAC trip report for the investigation performed at the South Central Terminal Site in Pana, Illinois, during July 12-17, 1999. It is straightforward, listing actions taken, samples collected, and analyses for Hazardous Characterization (Haz-Cat). I shall provide a summary of the three areas evaluated during the investigation: tanks, asbestos, and process area. The asphalt plant area is part of tanks.

Tanks

Fifty-nine (59) tanks were located and numbered. For tanks already numbered under previous investigations, we followed the same numbering system. For unnumbered tanks, we used the 300 series for the refinery area and the 400 series for the asphalt area. A worksheet was filled out for each tank and listed the numbers, dimensions, volume of liquids (if any), layering of liquids (if any), and a descriptive of the contents along with samples taken for Haz-Cat analysis.

Three (3) of the 59 tanks were not accessed and not sampled (#306, #308, and #37). Based on location and size, the contents of #306 are assumed to be similar to #305, and #308 similar, likewise, to #307. Based on anecdotal information and previous sampling by ILEPA, #37 contents are similar to #117.

The base map prepared by the GPS group shows 65 tanks, excluding the process area. Tanks numbered 2, 4, 7, 9, 11, 12, 14 and 20 do not exist and should either be removed or cross-hatched. Tank #113 does exist at the depicted location, and the cross-hatching should be removed. The horizontal tank depicted as #104 actually is #112 and the adjacent vertical tank depicted with a "?" actually is #104. The horizontal tank described as "gas tank" is #304. Tank #303 is not on the base map and should be shown in the northwest corner within the boiler house.

The Haz-Cat results are presented in Table 1 of the REAC trip report. Based on those results and visual inspection of the samples, I selected the type of analysis (PCB, TOX, TPH, BTU, VOC, NH₃, metals, and sulfides) to be performed on the individual tank samples. These results, as preliminaries (non-validated via REAC QA/QC), are expected by August 11, 1999. The results will be tabulated and sent under separate cover. Also, as much sample as possible per tank has been saved and archived in the REAC laboratory for future analysis and/or bulking scheme.

Asbestos

Initially, I intended to determine the presence and estimate of the amount of asbestos containing materials at the site. After assessing the potential asbestos containing materials at the site, I determined that it was prudent to take samples from many areas and do bulk estimates after receiving the results, which also are due by August 11, 1999. This will allow us to determine if there are discrete areas which can be classified as either asbestos or non-asbestos materials. It will provide for a more cost-effective approach during the cleanup phase of this project.

There were twenty-one (21) samples collected for asbestos analysis. Appendix B of the REAC preliminary report contains the worksheets prepared during sample collection. The locations are described in the worksheets and have been marked, in red, on the original base map of the site, which I am returning to you with this package. The locations also were spray painted, in red, at the points of collection.

Process Area

The Process Area, described as the Refinery Area on the GPS base map, received a cursory inspection. No samples were taken from the vessels within the area. Any piping which contained liquids were spray painted white, and the vessels were marked with a grease pen with a descriptive of the contents, or MT, signifying that the vessel was empty. Paul Atkociunas of EPA Region V START took notes while we assessed this area.

As an aside, transformer oils were sampled from three locations marked with a red "T" on the original base map. None of the discrete Haz-Cat PCB analyses showed any PCBs. Oils from each location were composited and sent for confirmatory analyses. Also, tank #305 contents exhibited an extremely high reading on the DRI, but when opened and exposed to the ambient environment, the readings subsided. The contents appear to be desorbing.

I will follow up this memo when the preliminary results are in from the lab. Call me if you have any questions at (732) 321-6744. If I am away from the office, call me at (609) 065-0199, which is my cell phone.

Take care.

Enclosure

Lockheed Martin Technology Services Group
Environmental Services REAC
2890 Woodbridge Avenue, Building 209 Annex Edison, NJ 08837-3679
Telephone 732-321-4200 Facsimile 732-494-4021

LOCKHEED MARTIN



DATE: 5 August 1999
TO: Andre Zownir, U.S. EPA/ERTC Work Assignment Manager
FROM: Michael Metz, REAC Task Leader *M. Metz*
SUBJECT: South Central Terminal - Pana, Illinois
Work Assignment R1A 00072 - PRELIMINARY TRIP REPORT

BACKGROUND

The United States Environmental Protection Agency (U.S. EPA)/Region V requested the assistance of the United States Environmental Protection Agency/Environmental Response Team Center (U.S. EPA/ERTC) at the abandoned South Central Terminal Site in Pana, Illinois to assess the contents of various tanks, vats, vessels, drums, and process lines. The facility was shut down in the early 1980s. There are 59 tanks with capacities ranging from 1,128 to 3,000,000 gallons, along with transformers, a process area and an asphalt plant. The U.S. EPA/Region V is performing an extent of contamination survey at this site and wants to differentiate between oil wastes and other hazardous wastes.

The purpose of the work assignment was for the Response Engineering and Analytical Contract (REAC) to provide technical assistance to the U.S. EPA/ERTC for on-site sampling of tanks, drums, transformers, and other vessels at the South Central Terminal site in Pana, Illinois. In addition, 21 bulk asbestos samples were taken from several on-site locations. Hazardous Categorization (HazCat) was performed on all samples collected. Samples are currently being analyzed by REAC laboratories and a subcontracted laboratory for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), total organic halogen (TOX), TAL metals, polychlorinated biphenols (PCBs), british thermal units (BTU), sulfides, ammonia, and asbestos content. Data generated from this assignment will be reviewed and validated using REAC/ERTC data validation guidelines and procedures.

OBSERVATIONS AND ACTIVITIES

The objectives of the tank sampling were as follows: 1) locate each tank on-site, 2) obtain access to each tank, 3) clarify the tank number label, 4) perform air monitoring using a lower explosive limit (LEL) meter, and a photo ionization detector, and record the results, 5) determine level of material within tank, 6) determine best way to obtain sample from tank, 7) determine if layers of different material exist within the tank and determine layer amounts, 8) obtain sample, enough for HazCat, laboratory analysis, and archiving, 9) ship samples back to REAC laboratory for HazCat, laboratory analysis, and archiving. Individual tank and transformer information was documented on tank sampling worksheets. Appendix A contains the tank sampling worksheets along with each individual HazCat analysis flowchart. Appendix B contains the bulk asbestos sampling work sheets.

Tank material volumes and HazCat results are listed in Table 1. Table 2 indicates the analytical process chosen for the tank samples as determined by the U.S. EPA/ERTC work assignment manager based on the HazCat results. Figure 1 shows the locations of the tanks at the South Central Terminal site.

On 12 July 1999, REAC personnel arrived at the abandoned South Central Terminal in Pana, Illinois. Upon arrival, the REAC team met with the U.S. EPA/ERTC work assignment manager, the U.S. EPA/Region V on-scene coordinator (OSC), and members of the U.S. EPA/Region V START Team. A health and safety meeting was held to discuss the site's safety issues prior to commencement of the work.

Using various tank sampling techniques, REAC obtained samples from four tanks and a fifth tank was determined to be empty. Small, horizontal tanks 300 and 301 are each partially full. Small tank 302 is nearly full with two layers, the top layer a thick oil, and the bottom layer a clear liquid. Tank 303 is empty. Tank 304 is partially full of a clear, volatile liquid. Sampling activities were completed for the day.

On 13 July 1999, 17 tanks were assessed in the following order over the course of the day. Tank 101 is empty. Two inches of clear liquid are in Tank 100. Tank 102 has one foot of a musty, watery material. Tank 108 has an open man-way, six inches of an oily liquid, and four inches of sediment. Tank 109 has an open man-way, 18 inches of an oily liquid, and six inches of sediment. Tank 110 is empty. Tank 103 has three feet of a musty, watery material. Horizontal tank 112 and tank 104 are empty. Tank 111 has two inches of an oily black liquid. Tank 113 has three inches of an oily black putrid liquid and three inches of sludge. Tanks 40, 41, 42, 43 have from one to three inches of a thick black oil. Tank 6 has nine inches of an oily black liquid. Tank 13 has two feet of a clear liquid. Sampling was completed for the day.

Also on 13 July 1999, 13 asbestos bulk samples were taken from various locations on the site. Samples were taken from suspect materials indicated by the U.S. EPA/ERTC work assignment manager. Locations of the bulk samples are indicated in the sampling worksheets in Appendix B.

On 14 July 1999, 16 tanks were assessed in the following order over the course of the day. Tank 309 has one inch of a thick black oil. Tank 32 was leaking a reddish liquid from the man-way. It has 15 feet of material within the tank, or approximately 140,000 gallons. There is a top layer of black oil determined to be approximately three feet thick. Tank 34 has one inch of an oily black liquid. Tank 31 has one inch of a brownish liquid. Tank 30 has one inch of a brownish liquid. Tanks 311, 312, 313, and 314 are all part of the API separator area. Tank 311 has nine feet of an oily black liquid. Tank 312 appears to be leaking from the bottom and has six inches of an oily black liquid. Tank 313 has six feet of material made up of approximately one foot of sludge, five feet of a clear liquid and two inches of a thick black oil. Tank 314 has six inches of a yellowish liquid. Tank 90, although only having one foot of an oily, black liquid which measured below the man-way, leaked when the man-way was loosened. The sample was obtained from the top. Tank 400 is empty. The horizontal tanks 401, 402, 403 and 404 appeared to be part of the asphalt plant and were each approximately half full of a thick black oil. Tank 403 contained a thicker tar-like material. Tank 310 has two inches of material, and appeared to have leaked much of its contents on the ground surrounding the tank. The sample of thick black material was taken from the spilled material. Samples taken to this point were shipped back to AC laboratories. Sampling was completed for the day.

ASPHALT
PLANT

On 15 July 1999, 15 tanks and 6 transformers were assessed in the following order over the course of the day. There are ten vertical tanks in the area known as the asphalt plant, Tanks 405 to 414. Tank 405 is empty. Tanks 406, 408, 410, 412, 413, and 414 each have three feet or less of a black tar-like liquid. Tank 407 has nine feet of black tar-like liquid. Tank 411 has 16 feet of black tar-like liquid. Tank 409 has 17 feet of thick tar. Tank 115 contains one and a half feet of a black liquid. Tank 119 contains 10 feet of a black liquid which calculates to approximately 265,000 gallons. Tank 118 contains one foot of a black liquid. Tank 117 is surrounded by a black liquid which appears to have leaked from the tank. The tank itself contains about six inches of the same black liquid. Tank 19 is surrounded by the same black liquid but the tank itself is empty. Tank 37 is also surrounded by the same black liquid but access to the tank itself was not possible due to liquid's depth. Transformers were sampled in two areas. Three transformers are located within Building K, the storage building. A composite of the three transformers was taken and labeled T1. T2 is a composite sample of the three transformers located between Tank 90 and the Machine Shop. Sampling was completed for the day.

On 16 July 1999, 5 tanks, 1 transformer, and the entire processing area were assessed in the following order over the course of the day. Tank 116 contains 25 feet of a black liquid or approximately 662,000 gallons. Tanks 305 and 306 appear to be twin tanks. Tank 305 contained 16 feet or approximately 1867 gallons of a solid white granular material. Tank 306 was not sampled but contained 15 feet of a solid material. Tank 307, containing approximately 11 feet or 1283 gallons of a brownish liquid, was sampled using the valve on the sight glass. It was determined that Tank 308 contained the same material though an accurate volume was not determined. A composite sample, T3, was obtained from a pair of transformers and a pair of reactors located within the processing area.

All of the lines within the processing area were checked to see if there is material contained within. Several of the processing lines still did contain an oily black liquid. These lines were marked using white spray paint. It was not determined the amount of material still contained within the processing area. Also, the vessels within the process area were marked using a grease pen indicating the contents.

Also on 16 July 1999, 8 asbestos bulk samples were taken from various locations on the site. Samples were taken from suspect materials indicated by the U.S. EPA/ERTC work assignment manager. Locations of the bulk samples are indicated on the sampling worksheets in Appendix B.

FUTURE ACTIVITIES

Preliminary analytical results are expected by 11 August 1999. Preliminary analytical results will be issued to the U.S. EPA work assignment manager upon receipt. A final trip report will be generated when the final analytical results are released. No further site activity is expected.

cc: Central File WA 00072

TABLE 2
Selected Analysis
South Central Terminal
R1A 00072
Pana, Illinois
August 1999

Tank Number	Estimated Material Volume (gallons)	Description of Material	HazCat Results	Analysis Selected
6	1772	Oily Black Liquid	Possible PCB	PCB, TOX
13	2800	Flammable Clear Liquid	Possible PCB	PCB, TOX, TPH, MET, VOC, BTU
19	EMPTY	EMPTY	-	-
30	887	Brownish Liquid	Organic Liquid	TOX
31	887	Brownish Liquid	Organic Liquid	TOX
32A	140637	Oily Black Liquid	Possible PCB	PCB, TOX, TPH, BTU, SUL
32B		Brownish Liquid	Water	-
34	457	Black Liquid	Organic Liquid	TOX
37	?	Unable to Access (Similar to Tank 117)	?	-
40	393	Oily Black Liquid	Possible PCB	PCB, TOX
41	197	Oily Black Liquid	Possible PCB	PCB, TOX
42	593	Oily Black Liquid	Possible PCB	PCB, TOX
43	393	Oily Black Liquid	Oil	TOX
90	9295	Black Tar-like Liquid	Oil	PCB, TOX, TPH, BTU, SUL
100	118	Flammable Clear Liquid	Unsaturated Oil	TOX, TPH, MET, VOC, BTU
101	EMPTY	EMPTY	-	-
102	6532	Dark Liquid	Water & Rust	TOX, TPH, MET, VOC, BTU
103	921	Musty Dirty Liquid	Water & Rust	TOX
104	EMPTY	EMPTY	-	-
108	<i>Adm</i> 11194 MT	Black Liquid	Organic Liquid	TOX, TPH, MET, VOC, BTU
109	2179	Musty Dirty Liquid	Water & Rust	TOX
110	EMPTY	EMPTY	-	-
111	1320	Oily Black Liquid	Oil	TOX
112	EMPTY	EMPTY	-	-
113	<i>Adm</i> 2658 MT	Black Liquid	Organic Liquid	PCB, MET, VOC, SUL, NH3
115	43217	Black Liquid	Organic Liquid	PCB, MET, VOC, SUL, NH3
116	662562	Black Liquid	Organic Liquid	PCB, MET, VOC, SUL, NH3
117	13251	Black Liquid	Organic Liquid	PCB, MET, VOC, SUL, NH3
118	26502	Black Liquid	Possible PCB	PCB, TOX, TPH, MET, VOC, BTU
119	265025	Black Liquid	Organic Liquid	PCB, MET, VOC, SUL, NH3
300	372	Flammable Dark Liquid	Gasoline	TOX, TPH, MET, VOC, BTU
301	186	Oily Black Liquid	Oil	TOX
302A	7009	Oily Black Liquid	Oil	TOX, TPH, BTU, SUL
302B		Clear Liquid	Water	-
303	EMPTY	EMPTY	-	-
304	4513	Flammable Amber Liquid	BTEX	PCB, TOX, TPH, MET, VOC, BTU
305	1867	White Granular Solid	Organic Solid	TOX, MET, VOC
306	1750	Not Sampled-assumed same as 305	-	-
307	1283	Flammable Clear Liquid	BTEX	PCB, TOX, TPH, MET, VOC, BTU
308	?	Not Sampled-assumed same as 307	-	-
309	39	Black Tar-like Liquid	Possible PCB	TOX
310	118	Black Tar-like Liquid	Tar	TOX

Adm

Adm

Table 2 (con't)

Tank Number	Estimated Material Volume (gallons)	Description of Material	HazCat Results	Analysis Selected
311	5282	Oily Black Liquid	Oil	PCB, TOX, TPH, BTU, SUL
312	293	Oily Black Liquid	Possible PCB	TOX
313A	5158	Oily Black Liquid	Possible PCB	PCB, TOX, TPH, BTU, SUL
313B		Clear Liquid	Water	-
314	430	Clear Yellowish Liquid	Water & Rust	TOX
400	EMPTY	EMPTY	-	-
401	12045	Oily Black Liquid	Possible PCB	PCB, TOX, TPH, BTU, SUL
402	12045	Oily Black Liquid	Oil	PCB, TOX, TPH, BTU, SUL
403	12045	Black Tar-like Liquid	Organic Liquid	PCB, TOX, TPH, BTU, SUL
404	12045	Oily Black Liquid	Possible PCB	PCB, TOX, TPH, BTU, SUL
405	EMPTY	EMPTY	-	-
406	648	Oily Black Liquid	Possible PCB	TOX
407	23337	Black Tar-like Liquid	Possible PCB	PCB, TOX, TPH, BTU, SUL
408	3890	Clear Brownish Liquid	Water & Rust	TOX, TPH, MET, VOC, BTU
409	44082	Black Tar-like Solid	Organic Liquid	PCB, TOX, TPH, BTU, SUL
410	1297	Oily Black Liquid	Oil	TOX
411	41489	Black Tar-like Liquid	Oil	PCB, TOX, TPH, BTU, SUL
412	856	Rust and Oil Sludge	Organic Liquid	TOX
413	7779	Black Tar-like Liquid	Oil	PCB, TOX, TPH, BTU, SUL
414	856	Oily Black Liquid	Oil	TOX
T1 (3 Trans)	45	Clear Yellow Liquid	Unsaturated Oil	PCB
T2 (3 Trans)	45	Clear Yellow Liquid	Unsaturated Oil	PCB
T3 (2 Trans, 2 Reactors)	50	Clear Yellow Liquid	Unsaturated Oil	PCB

PCB - polychlorinated biphenols

TOX- total organic halogens

TPH - total petroleum hydrocarbons

MET - TAL metals

VOC - volatile organic compounds

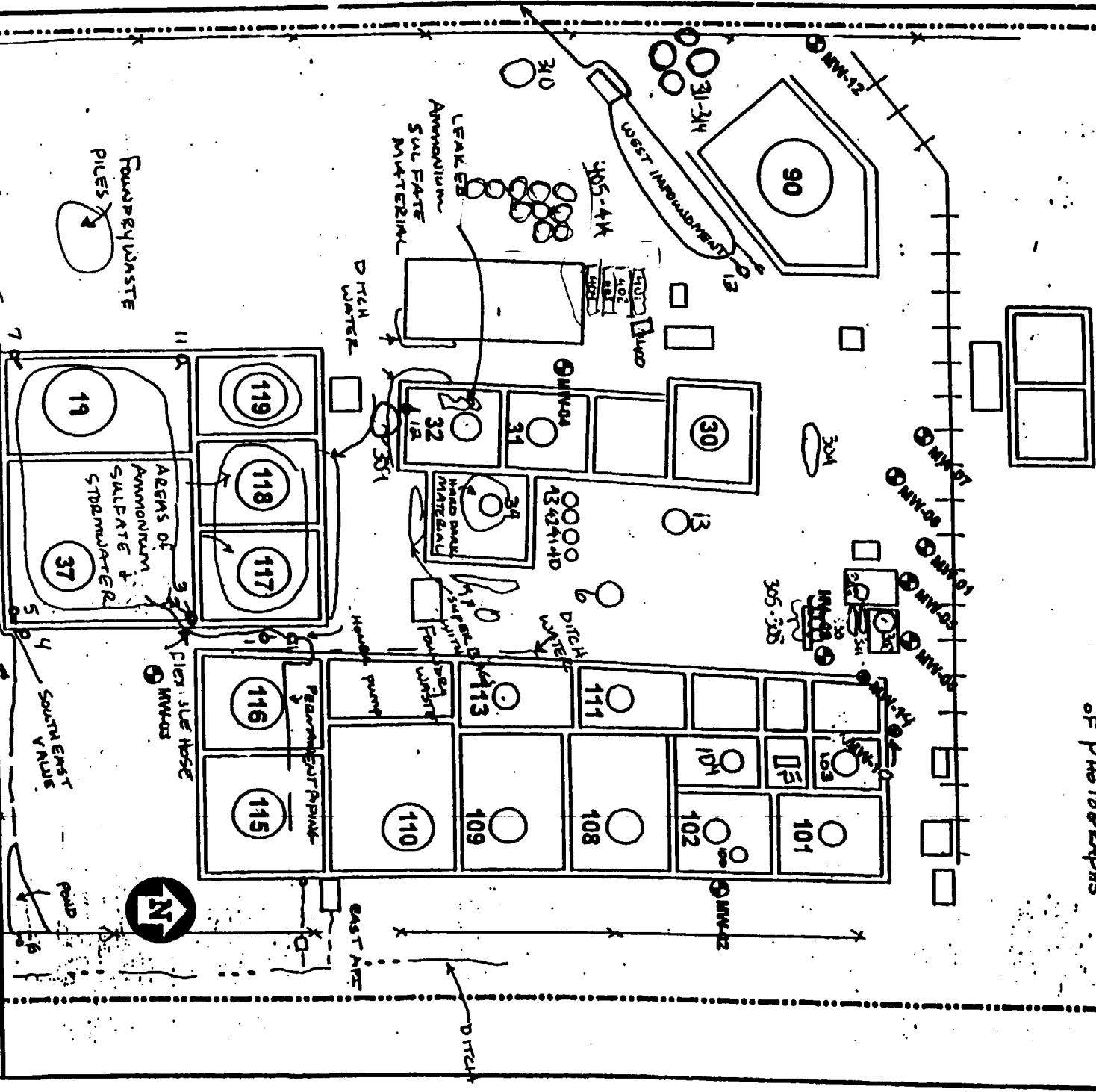
BTU - british thermal unit

SUL - sulfides

NH3 - ammonia

SITE SKETCH 2

Key:
b - INDICATES DIRECTION + location
OF PHOTOGRAPHS



SEE SKETCH 2 FOR FURTHER DEPICTION

ARMOR SHIELD OF ILLINOIS P.O. BOX 1225 213 E 3RD STREET CENTRALIA, IL 62801 (618)533-5963 (618)533-6964 FAX		FIGURE 2 SITE MAP		DATE: 9-24-98	
PANA REFINERY PANA, IL		JOB #		ASS8002	